

**WHAT IS CLAIMED IS:**

1. An RF converter having multiple AV/S terminals comprising:

an RF modulator having a video input (V), an audioinput (A), one RF output and a power pin, wherein the RF output connects to an ANT terminal of a TV;

an S to AV signal converter unit connected to the video input of the RF modulator to convert the S-signal to the V-signal; and

multiple switches connected to the corresponding AV/S terminals, wherein an V pin of the each AV terminal connects to the video input of the RF modulator and a A pin of the each AV terminal connects to the audio input of the RF modulator and an S terminal having a Y pin and a C pin connects to the S to AV signal converter unit to convert an S-signal to a V-signal.

2. The RF converter as claimed in claim 1, wherein the S to AV signal converter unit comprises an RC parallel tuner connected to the Y pin of the S terminal and an RC serial tuner connected to the C pin of the S terminal, wherein an output of the RC parallel tuner connects to an output of the serial tuner and through a transistor to the video input of the RF modulator.

3. The RF converter as claimed in claim 1, wherein the RF converter between the video input of the RF modulator and the switches connected to the corresponding AV/S terminals further comprises:

at least three video signal amplifiers connected to the V pins of the AV terminals and the Y pins and the C pins of the S terminals to amplify the video signal from the A pins, the Y pins and the C pins, wherein outputs of the video signal amplifiers connected to the S terminal connect to the S to AV signal converting unit;

at least two audio signal amplifiers connected to the V pins of the AV terminals

1 to amplify the audio signal from the A pins of the AV terminals;

2 at least three switching impedance units connected to outputs of the video and  
3 audio signal amplifiers with the video input and the audio input of the RF modulator.

4 4. The RF converter as claimed in claim 2, wherein the RF converter further  
5 comprises a detecting unit, an ANT input and an electronic switch connected between  
6 the ANT input with the RF output, wherein the detecting unit connects among a power  
7 circuit supplying power to the power pin of the RF modulator, the power pin, the  
8 transistor and the ANT input has:

9 a first transistor connected to the transistor;

10 a second transistor connected to the first transistor; and

11 a driver connected the first transistor with the electronic switch of the ANT  
12 output to decide weather the electronic switch turns on; wherein

13 according to whether the transistor turns on decides the driver to allow the  
14 electronic switch to turn on, that is the RF-signal from the ANT input is directly output  
15 to the RF output of the RF modulator.

16 5. The RF converter as claimed in claim 1, wherein the RF converter further  
17 comprises multiple priority switches respectively connecting the grounds of the S  
18 terminals with the V pins of the AV terminals, wherein each priority switch ensures that  
19 inputting the S-signal from the S terminal input to the RF modulator has priority over  
20 the V-signal in the same AV/S terminal.